

Listing of the Claims:

A listing of the entire set of pending claims is submitted herewith per 37 CFR 1.121(c)(3). This listing of claims will replace all prior versions, and listings, of claims in the application. No claims have been amended in this Reply.

1. (Previously Presented) A device comprising:

at least one nanowire with a surface and having optical properties including a luminescence, the surface being provided with at least one binding site able to selectively bind a molecule that, when bound to the binding site, quenches the luminescence of the nanowire, and

a photodetector for detecting the luminescence of the nanowire and for outputting a signal in response to the luminescence of the nanowire that indicates whether the molecule is bound to the binding site and is quenching the luminescence of the nanowire.

2. (Previously Presented) A device according to claim 1, wherein the photodetector comprises:

a substrate including a phototransistor; and

an optical filter disposed on the phototransistor, the nanowire being disposed on the optical filter, the optical filter passing light having a wavelength corresponding to a spectrum of the luminescence of the nanowire, and rejecting light at other wavelengths.

3. (Previously Presented) A device according to claim 1, wherein the molecule is a biomolecule.

4. (Previously Presented) A device according to claim 3, wherein the biomolecule is labeled with a dye.

5. (Previously Presented) A device according to claim 4, wherein the dye has an absorption spectrum which overlaps in frequency with a spectrum of the luminescence of the nanowire.

6. (Canceled)

7. (Previously Presented) A device according to claim 1, wherein the at least one nanowire furthermore comprises an activator ion.

8. (Canceled)

9. (Previously Presented) A device according to claim 1, wherein the device comprises an array of nanowires.

10. (Previously Presented) A device according to claim 1, wherein at least a first nanowire is modified with at least one first binding site, and at least a second nanowire is modified with at least one second binding site, the first and second binding sites binding different molecules from each other.

11. (Previously Presented) A device according to claim 1, wherein at least two nanowires have different sizes.

12. (Previously Presented) A device according to claim 1, wherein the at least one nanowire is dispersed in a liquid to form a suspension.

13. (Previously Presented) A device according to claim 12, wherein the suspension of the at least one nanowire is drop-deposited onto a surface.

14. (Previously Presented) A device according to claim 1, wherein the at least one nanowire is grown onto a surface.

15. (Previously Presented) A device according to claim 1, wherein the at least one nanowire is grown into a porous matrix.

16. (Previously Presented) A device according to claim 1, wherein the device is a nanowire sensor for the detection of an analyte, wherein the at least one binding site is able to selectively bind an analyte, wherein the optical properties of the nanowire are used for analyte detection.

17 - 21. (Cancelled).